

BAWA SL 1002
(Solvent less UP trickle impregnating resin for thermal class 155 electrical machines)

Bawa SL 1002 is a hot curing electric insulating trickle resin consisting of Two Components. It is an unsaturated polyesterimide distinguished by its very good thermal capacity in the cured state is used as the base resin. Base resin is highly viscous or frequently solid and therefore dissolved in reactive thinners. In this case, styrene, which reacts in the resultant cured material owing to its reactive double linkage, is used as the reactive thinner.

Polymerization is initiated by mixing the two components under the effect of heat proceeds as a rapid Chain-reaction until a three-dimensionally cross-linked, duroplastic cured material is produced. Bawa SL 1002 is mainly used for Standard Motors, Household Machines, Grinders, Mixers and Hand tools etc.

Properties of the cured material

After curing this is a tough elastic cured material with very good mechanical and dielectric properties. The Cured material also displays very high resistance to tropical influences, solvents and their vapors, oil and other chemicals.

Processing Method

Bawa SL 1002 can be processed in all conventional trickling plants. According to the principal of trickle impregnation, the activated resin is applied in a thin stream to the rotating preheated winding. The resin immediately adopts the temperature of the winding, becomes considerably more thin fluid and is distributed uniformly throughout the winding as a result of rotation and capillary forces. The temperature of the objects to be trickled should be between 700C and 1300C to attain short cycle times. Curing occurs by current heating and / or heated circulating air. With a suitably high throughput, Bawa SL 1002 can also be processed by the dip rolling method. Since the activated resin is a highly reactive system, the temperature of the resin in the mixing container of the trickling plant should not exceed approx. 200C. The resin should be protected from light during processing and storage.

Properties of Components

Chemical Base		Unsaturated Polyesterimide resin
Colour & appearance		Brown Clear liquid
Viscosity at 30°C (By ford cup B4)	Sec.	80-90
Specific Gravity at 23°C	g/ml	1.10 (typical)
Flash Point	°C	32 (typical)
Recommended Diluent		Bawa STR
Storage Stability	6 Months if stored in original sealed container at 250C or below.	

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Property of Hardener Bawa S2

Chemical Base	Tertiary butyl per benzoate
Colour & appearance	Colourless to Yellow, tint clear
Specific Gravity at 20°C	1.040 – 1.042
Storage Stability	9 months if stored in original sealed container at 25°C or below

Mixing Proportions

Bawa SL 1002 : 100 parts by weight

Hardener Bawa S2 : 1 part by weight

For Stators (5 min. at 1300C) : For windings with higher mechanical stresses, post curing at 1300C for 30 minutes is suggested in addition to curing on trickle plant for Approx. 5 minutes at 1300C

Suggested Curing Schedule

Typical Properties of Mixture (Resin + Hardener)

Viscosity at 30°C (By ford cup B4)	Sec.	Sec.
Density at 30°C	g/ml	1.10
Gel time of mixture at 80°C	Min	38-52
Activated resin storage life	7 days if stored at 20°C or below at sealed container	

Properties of the cured Resin (Typical)

Specimen curing 30 minutes at 1300C Test methods according to IEC 60455 (unless otherwise specified)			
Dielectric strength	At R.T. at 155°C after 24 h water immersion at R.T.	KV/mm	70 65 65
Volume resistivity (500 V DC)	At R.T. at 155°C after 168 h water immersion at R.T.	Ohm.cm	10 ¹⁶ 10 ¹⁵ 10 ¹⁶
Bond Strength	IEC 61033, Twisted coil at R.T. At 155°C	N	180 62
Water absorption	ISO 62 (96 h at R.T.)	%	2.6
Temperature index	IEC 60216 (25% wt. loss criteria)		155

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Cleanings:

Uncured resin can easily be cleaned by washing with hot detergent solution, acetone or styrene. It is difficult to remove cured resin and for this reasons, tools and containers contaminated with activated resin mixture should be cleaned after use.

Recommended Storage:

The resin and hardener should be stored at a temperature not exceeding 200C in original sealed containers. At higher storage temperature the storage life decreased sharply. The resin and hardener containers should not be exposed to sunlight to avoid premature gelation.

Safe Handling:

Bawa SL 1002 is a flammable liquid. Use foam, CO2 or dry chemical powder for fire fighting. Inhalation and direct contact with the skin to be avoided. In case of contact, the affected area should be washed with soap and plenty of water. For further details ask for Material safety data sheet.

Please Note: - Viscosity and Gel time values may change during and shelf life period.

Packing:

Bawa SL 1002 : 21 K.G. & 210 kg in EP lined drums
Bawa S2 : 1 Kg in polythene container & 21 kg EP lined m.s. drums
Bawa STR : 1 Kg in polythene container & 21 kg EP lined m.s. drums

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